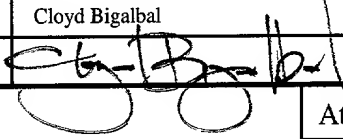


EXPRESS MAIL CERTIFICATE

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated below and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

| | | | |
|---|---|----------------------|--|
| Typed or Printed Name | Cloyd Bigalbal | Express Mail No. | EL 563 387 369 US |
| Signature |  | Date | 4/17/01 |
| SUBMISSION OF SEQUENCE LISTING UNDER 37 CFR §§1.821-1.825 Address to: Assistant Commissioner for Patents Box Patent Application Washington, D.C. 20231 | | Attorney Docket | STAN110CON |
| | | First Named Inventor | Butcher et al. |
| | | Application Number | Unassigned |
| | | Filing Date | Herewith (April 17, 2001) |
| | | Group Art Unit | Unassigned |
| | | Examiner Name | Unassigned |
| | | Title: | "MODULATION OF SYSTEMIC MEMORY T CELL TRAFFICKING" |

Sir:

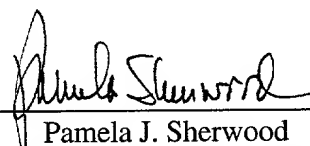
A Sequence Listing in computer readable form as required by 37 CFR §1.821(e) and in compliance with the requirements of 37 CFR §1.824 is submitted herewith. In addition, applicant submits a paper copy of the Sequence Listing as required under 37 CFR §1.821(c) and a statement under 37 CFR §1.821(f).

I hereby state that this Sequence Listing submission, filed in accordance with 37 CFR §1.821(g), does not contain new matter. Furthermore, pursuant to 37 CFR §1.821(f), I hereby state that the content of the paper and computer readable copies of the Sequence Listing, submitted in accordance with 37 CFR §1.821(c) and (e), respectively, are the same and that the sequence listings contain no new matter.

The Sequence Listing was prepared with the software FASTSEQ, and conforms with the Patent Office guidelines. Applicant respectfully submits that the subject application is in adherence to 37 CFR §§1.821-1.825.

Respectfully submitted,

Dated: April 17, 2001

By: 
 Pamela J. Sherwood
 Registration No. 36,677

BOZICEVIC, FIELD & FRANCIS LLP
 200 Middlefield Road, Suite 200
 Menlo Park, CA 94025
 Telephone: (650) 327-3400
 Facsimile: (650) 327-3231

SEQUENCE LISTING

<110> Butcher, Eugene C.
Campbell, James J.
Rottman, James B.
Wu, Lijian

<120> Modulation of Systemic Memory T Cell
Trafficking

<130> STAN-110CON

<140> Unassigned

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<150> 09/232,878

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agaaaagcaa gctgcttctg gttgggceca gacctgcctt gaggagcctg tagagttaaa      180
aa atg aac ccc acg gat ata gca gat acc acc ctc gat gaa agc ata      227
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Tyr Ser Asn Tyr Tyr Leu Tyr Glu Ser Ile Pro Lys Pro Cys Thr Lys
           20             25             30

gaa ggc atc aag gca ttt ggg gag ctc ttc ctg ccc cca ctg tat tcc      323
Glu Gly Ile Lys Ala Phe Gly Glu Leu Phe Leu Pro Pro Leu Tyr Ser
           35             40             45

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Leu Val Phe Val Phe Gly Leu Leu Gly Asn Ser Val Val Val Leu Val
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Leu Phe Lys Tyr Lys Arg Leu Arg Ser Met Thr Asp Val Tyr Leu Leu
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| Gly | Tyr | Tyr | Ala | Ala | Asp | Gln | Trp | Val | Phe | Gly | Leu | Gly | Leu | Cys | Lys | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
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| Met | Ile | Ser | Trp | Met | Tyr | Leu | Val | Gly | Phe | Tyr | Ser | Gly | Ile | Phe | Phe | |
| | | 115 | | | | | | 120 | | | | | 125 | | | |
| gtc | atg | ctc | atg | agc | att | gat | aga | tac | ctg | gcg | ata | gtg | cac | gcg | gtg | 611 |
| Val | Met | Leu | Met | Ser | Ile | Asp | Arg | Tyr | Leu | Ala | Ile | Val | His | Ala | Val | |
| | | 130 | | | | | 135 | | | | | 140 | | | | |
| ttt | tcc | ttg | agg | gca | agg | acc | ttg | act | tat | ggg | gtc | atc | acc | agt | ttg | 659 |
| Phe | Ser | Leu | Arg | Ala | Arg | Thr | Leu | Thr | Tyr | Gly | Val | Ile | Thr | Ser | Leu | |
| | 145 | | | | | 150 | | | | | 155 | | | | | |
| gct | aca | tgg | tca | gtg | gct | gtg | ttc | gcc | tcc | ctt | cct | ggc | ttt | ctg | ttc | 707 |
| Ala | Thr | Trp | Ser | Val | Ala | Val | Phe | Ala | Ser | Leu | Pro | Gly | Phe | Leu | Phe | |
| 160 | | | | | 165 | | | | | 170 | | | | | 175 | |
| agc | act | tgt | tat | act | gag | cgc | aac | cat | acc | tac | tgc | aaa | acc | aag | tac | 755 |
| Ser | Thr | Cys | Tyr | Thr | Glu | Arg | Asn | His | Thr | Tyr | Cys | Lys | Thr | Lys | Tyr | |
| | | | | 180 | | | | | 185 | | | | | 190 | | |
| tct | ctc | aac | tcc | acg | acg | tgg | aag | gtt | ctc | agc | tcc | ctg | gaa | atc | aac | 803 |
| Ser | Leu | Asn | Ser | Thr | Thr | Trp | Lys | Val | Leu | Ser | Ser | Leu | Glu | Ile | Asn | |
| | | | 195 | | | | | 200 | | | | | 205 | | | |
| att | ctc | gga | ttg | gtg | atc | ccc | tta | ggg | atc | atg | ctg | ttt | tgc | tac | tcc | 851 |
| Ile | Leu | Gly | Leu | Val | Ile | Pro | Leu | Gly | Ile | Met | Leu | Phe | Cys | Tyr | Ser | |
| | | 210 | | | | | 215 | | | | | 220 | | | | |
| atg | atc | atc | agg | acc | ttg | cag | cat | tgt | aaa | aat | gag | aag | aag | aac | aag | 899 |
| Met | Ile | Ile | Arg | Thr | Leu | Gln | His | Cys | Lys | Asn | Glu | Lys | Lys | Asn | Lys | |
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| gcg | gtg | aag | atg | atc | ttt | gcc | gtg | gtg | gtc | ctc | ttc | ctt | ggg | ttc | tgg | 947 |
| Ala | Val | Lys | Met | Ile | Phe | Ala | Val | Val | Val | Leu | Phe | Leu | Gly | Phe | Trp | |
| 240 | | | | | 245 | | | | 250 | | | | | | 255 | |
| aca | cct | tac | aac | ata | gtg | ctc | ttc | cta | gag | acc | ctg | gtg | gag | cta | gaa | 995 |
| Thr | Pro | Tyr | Asn | Ile | Val | Leu | Phe | Leu | Glu | Thr | Leu | Val | Glu | Leu | Glu | |
| | | | | 260 | | | | | 265 | | | | | 270 | | |
| gtc | ctt | cag | gac | tgc | acc | ttt | gaa | aga | tac | ttg | gac | tat | gcc | atc | cag | 1043 |
| Val | Leu | Gln | Asp | Cys | Thr | Phe | Glu | Arg | Tyr | Leu | Asp | Tyr | Ala | Ile | Gln | |
| | | | 275 | | | | | 280 | | | | | 285 | | | |
| gcc | aca | gaa | act | ctg | gct | ttt | gtt | cac | tgc | tgc | ctt | aat | ccc | atc | atc | 1091 |
| Ala | Thr | Glu | Thr | Leu | Ala | Phe | Val | His | Cys | Cys | Leu | Asn | Pro | Ile | Ile | |
| | | 290 | | | | | 295 | | | | | 300 | | | | |
| tac | ttt | ttt | ctg | ggg | gag | aaa | ttt | cgc | aag | tac | atc | cta | cag | ctc | ttc | 1139 |
| Tyr | Phe | Phe | Leu | Gly | Glu | Lys | Phe | Arg | Lys | Tyr | Ile | Leu | Gln | Leu | Phe | |
| | 305 | | | | | 310 | | | | | 315 | | | | | |

aaa acc tgc agg ggc ctt ttt gtg ctc tgc caa tac tgt ggg ctc ctc 1187
 Lys Thr Cys Arg Gly Leu Phe Val Leu Cys Gln Tyr Cys Gly Leu Leu
 320 325 330 335

caa att tac tct gct gac acc ccc agc tca tct tac acg cag tcc acc 1235
 Gln Ile Tyr Ser Ala Asp Thr Pro Ser Ser Ser Tyr Thr Gln Ser Thr
 340 345 350

atg gat cat gat ctt cat gat gct ctg tag gaaaaatgaa atggtgaaat 1285
 Met Asp His Asp Leu His Asp Ala Leu *
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 Val Phe Val Phe Gly Leu Leu Gly Asn Ser Val Val Val Leu Val Leu
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 Phe Lys Tyr Lys Arg Leu Arg Ser Met Thr Asp Val Tyr Leu Leu Asn
 65 70 75 80
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 85 90 95
 Tyr Tyr Ala Ala Asp Gln Trp Val Phe Gly Leu Gly Leu Cys Lys Met
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 Ile Ser Trp Met Tyr Leu Val Gly Phe Tyr Ser Gly Ile Phe Phe Val
 115 120 125
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 130 135 140
 Ser Leu Arg Ala Arg Thr Leu Thr Tyr Gly Val Ile Thr Ser Leu Ala
 145 150 155 160
 Thr Trp Ser Val Ala Val Phe Ala Ser Leu Pro Gly Phe Leu Phe Ser
 165 170 175
 Thr Cys Tyr Thr Glu Arg Asn His Thr Tyr Cys Lys Thr Lys Tyr Ser
 180 185 190
 Leu Asn Ser Thr Thr Trp Lys Val Leu Ser Ser Leu Glu Ile Asn Ile
 195 200 205
 Leu Gly Leu Val Ile Pro Leu Gly Ile Met Leu Phe Cys Tyr Ser Met
 210 215 220
 Ile Ile Arg Thr Leu Gln His Cys Lys Asn Glu Lys Lys Asn Lys Ala
 225 230 235 240
 Val Lys Met Ile Phe Ala Val Val Val Leu Phe Leu Gly Phe Trp Thr

245 250 255
 Pro Tyr Asn Ile Val Leu Phe Leu Glu Thr Leu Val Glu Leu Glu Val
 260 265 270
 Leu Gln Asp Cys Thr Phe Glu Arg Tyr Leu Asp Tyr Ala Ile Gln Ala
 275 280 285
 Thr Glu Thr Leu Ala Phe Val His Cys Cys Leu Asn Pro Ile Ile Tyr
 290 295 300
 Phe Phe Leu Gly Glu Lys Phe Arg Lys Tyr Ile Leu Gln Leu Phe Lys
 305 310 315 320
 Thr Cys Arg Gly Leu Phe Val Leu Cys Gln Tyr Cys Gly Leu Leu Gln
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 Asp His Asp Leu His Asp Ala Leu
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 Met Ala
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 Pro Leu Lys Met Leu Ala Leu Val Thr Leu Leu Leu Gly Ala Ser Leu
 5 10 15

 cag cac atc cac gca gct cga ggg acc aat gtg ggc cgg gag tgc tgc 154
 Gln His Ile His Ala Ala Arg Gly Thr Asn Val Gly Arg Glu Cys Cys
 20 25 30

 ctg gag tac ttc aag gga gcc att ccc ctt aga aag ctg aag acg tgg 202
 Leu Glu Tyr Phe Lys Gly Ala Ile Pro Leu Arg Lys Leu Lys Thr Trp
 35 40 45 50

 tac cag aca tct gag gac tgc tcc agg gat gcc atc gtt ttt gta act 250
 Tyr Gln Thr Ser Glu Asp Cys Ser Arg Asp Ala Ile Val Phe Val Thr
 55 60 65

 gtg cag ggc agg gcc atc tgt tgc gac ccc aac aac aag aga gtg aag 298
 Val Gln Gly Arg Ala Ile Cys Ser Asp Pro Asn Asn Lys Arg Val Lys
 70 75 80

 aat gca gtt aaa tac ctg caa agc ctt gag agg tct tga agcctcctca 347
 Asn Ala Val Lys Tyr Leu Gln Ser Leu Glu Arg Ser *
 85 90

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Cys Cys Leu Glu Tyr Phe Lys Gly Ala Ile Pro Leu Arg Lys Leu Lys
          35          40          45
Thr Trp Tyr Gln Thr Ser Glu Asp Cys Ser Arg Asp Ala Ile Val Phe
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<223> Coding sequence for MDC chemokine

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Leu Val Leu Leu Ala Val Ala Leu Gln Ala Thr Glu Ala Gly Pro Tyr
          15          20          25

ggc gcc aac atg gaa gac agc gtc tgc tgc cgt gat tac gtc cgt tac      148
Gly Ala Asn Met Glu Asp Ser Val Cys Cys Arg Asp Tyr Val Arg Tyr
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cgt ctg ccc ctg cgc gtg gtg aaa cac ttc tac tgg acc tca gac tcc      196
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          45          50          55

tgc ccg agg cct ggc gtg gtg ttg cta acc ttc agg gat aag gag atc      244
Cys Pro Arg Pro Gly Val Val Leu Leu Thr Phe Arg Asp Lys Glu Ile
          60          65          70          75

tgt gcc gat ccc aga gtg ccc tgg gtg aag atg att ctc aat aag ctg      292
Cys Ala Asp Pro Arg Val Pro Trp Val Lys Met Ile Leu Asn Lys Leu
          80          85          90

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Ser Gln *
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 35 40 45

| | | | | | | | | | | | | | | | |
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| Val | Val | Lys | His | Phe | Tyr | Trp | Thr | Ser | Asp | Ser | Cys | Pro | Arg | Pro | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Val | Leu | Leu | Thr | Phe | Arg | Asp | Lys | Glu | Ile | Cys | Ala | Asp | Pro | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Val | Pro | Trp | Val | Lys | Met | Ile | Leu | Asn | Lys | Leu | Ser | Gln | | | |
| | | | | 85 | | | | | 90 | | | | | | |